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BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

American Seaports--Changes Affecting Operations And Development

This overview report discusses the challenge of adjusting to technological change and environmental and social constraints faced by American seaports. The adjustment has been expensive and many ports are experiencing financial difficulties.

Existing trends affecting ports involve

- deeper shipping channels and harbors, especially for oil imports;
- extensive capital expenditures;
- shifts in traditional patterns of cargo, with greater emphasis on a few major ports;
- increased expenses due to environmental and cargo safety regulations.

Cost/benefit and financing studies are needed to assess any change in U.S. policies to accelerate or slow down these trends or to relieve financial distress of individual ports.

The report identifies alternative policy choices available to the Congress and summarizes the views of Federal agencies.



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CEG-80-8
NOVEMBER 16, 1979





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WASHINGTON, D.C. 20548

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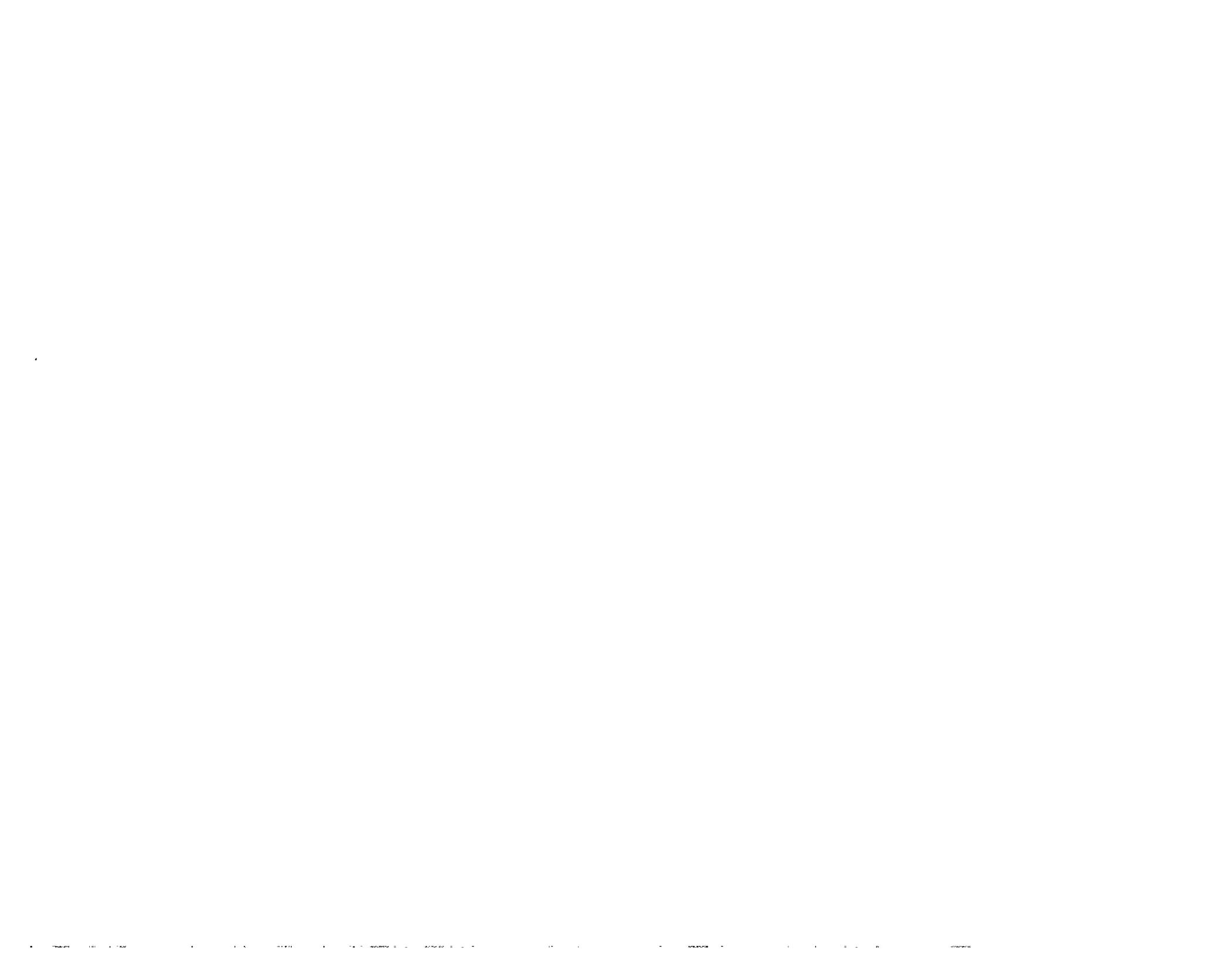
To the President of the Senate and the } CWO 00001
Speaker of the House of Representatives }

This report briefly describes some problems American seaports have encountered while adapting to changing operating conditions. The report offers alternatives for the Congress to consider to determine whether the Federal Government has a role in future development of the Nation's seaports.

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Copies of the report are being sent to the Director, Office of Management and Budget; the Secretaries of Defense, Commerce, the Interior, and Transportation; and the Administrator, Environmental Protection Agency.


Comptroller General
of the United States



D I G E S T

America's seaports have successfully coped with dramatic changes in maritime transportation and cargo-handling techniques in recent years. In doing so, however, they have incurred large, long-term debts, and many ports anticipate additional large capital expenditures to accommodate trade increases.

Many ports are having difficulty obtaining funds from traditional sources for continued development. This problem raises the question of whether the Federal Government should have a role in port development and, if so, what that role should be.

Proposed legislation for Federal funding of federally mandated programs has been introduced but not enacted. In this overview report, GAO offers some options, including pros and cons, for the Congress to consider when evaluating existing Federal programs and formulating or reviewing future legislation.

CHANGES AFFECTING PORT
OPERATIONS AND DEVELOPMENT

Traditionally, ports have been local, private, and/or public enterprises supported financially by communities because of the economic benefits they bring. The Federal role in supporting port operations has been limited. A study funded by the Maritime Administration shows that the port industry directly or indirectly provided employment to more than 1 million people and contributed about \$30 billion to the gross national product in 1977.

Major technological advances have radically altered traditional port operations.

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Modern cargo movement and handling techniques require fewer laborers but increasing amounts of capital. Large, specialized ships have replaced smaller ones; expensive, sophisticated cargo-handling equipment has reduced labor costs; expensive and expansive shore facilities have replaced small piers. Continuation of existing trends in the shipping industry will eventually require even greater changes:

--deeper shipping channels and harbors, especially for oil imports;

--extensive capital expenditures; and

--shifts in traditional patterns of cargo movement, with greater emphasis on a few main ports. (See pp. 6 to 14.)

The Nation has a choice as to the rate at which these changes in ports will take place and even whether to encourage these trends at all. If it is willing to forgo the reduction in transportation costs for imports and exports that the new technology makes possible, the Nation could continue to opt for smaller ships serving many different ports. National defense considerations, which do not necessarily favor extensive concentration of traffic in a few main ports, also need to be evaluated carefully.

Ports are also faced with increased social awareness of the effect of their activities on the environment and employee safety. The costs of deepening channels and harbors have increased substantially because dredged spoils now must be disposed of in an environmentally acceptable manner. Federal regulations on employee safety and cargo security have further increased ports' costs. Collectively, these and other regulations and programs have delayed ports' attempts to modernize their facilities. The cost of these regulations and programs is estimated to be about \$64 million a year. (See pp. 14 to 18.)

PUBLIC PORTS' FINANCIAL PROBLEMS

Ports are having difficulty obtaining local or State revenues or tax-supported bond issues for capital expenditures; consequently, they are beginning to use revenue bonds supported by port income. Since ports usually operate on very small profit margins--2 to 4 percent of capital investment--or, at times, at a loss, obtaining funds based on income may be difficult for some of them. The shift from a labor-intensive to a capital-intensive industry also appears to have diminished communities' willingness to give financial support to their ports because of reduced employment opportunities. Because of these factors, ports have reversed their traditional policy of opposing Federal aid and are endeavoring to obtain Federal funds without Federal control of the industry. (See pp. 19 to 21.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

The Congress must determine what the Federal Government's role should be, if any, in port development. The following options are available.

- Continuation of the Federal role of providing and maintaining channels, harbors, and navigational aids and sharing in the costs of port research and regional planning. (See p. 23.)
- A national plan for port development, including Federal underwriting of capital investments and Federal subsidies of operating deficits. (See p. 24.)
- A national plan for port development financed by a tax on port users, patterned after the airport development program. (See pp. 24 and 25.)
- Federal underwriting of ports' financial needs by guaranteeing loans. (See p. 25.)

--Federal financing of federally mandated costs. (See p. 25.)

Key issues in evaluating these options are (1) the degree to which Federal assistance should reinforce or resist the economic forces which are tending to concentrate business in a relatively few large ports and (2) who should pay for special port development programs.

AGENCY COMMENTS

Comments on this overview report were obtained from the Departments of Commerce, the Army, Transportation, and the Interior. These comments are included as appendixes I through IV. (See pp. 29 to 49.)

The comments of each agency highlight their perspective on current issues of U.S. port development and constitute an important part of this study.

Commerce noted that the observations in this report are generally consistent with those of other studies conducted by it, the National Academy of Sciences, and others. Commerce believes that public ports' financial problems reflect an overall reevaluation of tax-supported financing and market forces rather than perceived public reaction to direct employment losses in local ports. It also indicated that much more detailed analysis was needed if the Congress was to have a realistic and comprehensive assessment of the need for change in the Federal Government's existing relationship to U.S. ports.

The U.S. Army points out that national defense and security must be basic considerations in decisions involving subsidies. It notes, however, that past experience has shown that the allocation of resources from the private sector has been sufficient to serve our defense needs. The Army also pointed out that compliance with environmental measures has become a normal cost of

doing business for any industry and that measures to provide special Federal financing for these costs have not been accepted for other water resources development purposes. The U.S. Army Corps of Engineers stated that reduced employment opportunities in local ports are a major factor contributing to public ports' financial problems.

The Department of Transportation shares concern for the viability and future financial health of the Nation's ports. However, it expressed considerable doubt as to whether Federal assistance is either desirable or necessary. Transportation indicated that it has not been demonstrated that any shortfall or deficiency in port capacity is inhibiting the flow of commerce on a national scale. It indicated that the present involvement of the Maritime Administration, Corps of Engineers, and Coast Guard in port development is quite significant.

Interior expressed concern that the report overemphasized the role of environmental agencies in increasing costs.



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ABBREVIATIONS

dwt	deadweight tonnage
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FWS	U.S. Fish and Wildlife Service
GAO	General Accounting Office
RoRo	roll-on roll-off

G L O S S A R Y

Barge	A large boat, usually flat-bottomed, unpowered, and towed by other craft, used for transporting freight.
Berth	A space at a wharf or pier for a ship.
Bulk cargo	A homogenous cargo carried loose or unpackaged in a ship. May be composed of free-flowing articles, such as coal, grain, and ore or articles that require mechanical handling, such as coke, bricks, pig iron, and steel beams.
Bulk carrier	A vessel specially designed and constructed to carry cargo in bulk, such as ore, coal, and grain.
Cargo	Includes all materials, supplies, baggage, or equipment classified and carried as freight.
Channel	The deeper part of a river or harbor, especially a navigable passage.
Container	Large standard-sized receptacles (usually 8' x 8' x 20' or 40') in which general cargo may be packaged to facilitate shipping and handling. Containers are reusable and may be transported by water, rail, highway, or air. They may be enclosed and weathertight or open.
Containership	A vessel designed and constructed to carry standard-sized containers.
Deadweight tonnage (dwt)	A vessel's carrying capacity expressed in number of tons of 2,240 pounds. Capacity includes the crew and their effects, provisions, fresh water, fuel, cargo, etc.
Draft	The depth of a vessel below the water.
Fairway	A navigable deep-water channel in a river or a harbor or along a coastline; the usual course followed by vessels entering or leaving harbors.

General cargo	Cargo which can be loaded in general, nonspecialized stowage areas, e.g., boxes, barrels, bales, crates, packages, and bundles.
Harbor	A sheltered part of a body of water deep enough to provide anchorage for ships.
Intermodal	Able to be carried by different modes of transportation such as by ship, train, or highway; able to switch from one mode to another.
Marginal wharf	See "wharf."
Moor	To secure a vessel to a pier or wharf with cables, ropes, anchors, or other contrivances.
Pier	A projecting structure running at an angle to the shoreline that provides a place on each side for vessels to load and unload cargo.
Staging	The process of assembling, holding, and organizing cargo for further movement.
Straddle carrier	A vehicle specially designed and constructed to straddle, lift, and transport a container.
Tanker	A vessel especially designed and constructed to carry fluid cargoes in bulk.
Wharf	A reinforced bank or shoreline where vessels are loaded and unloaded. Also called a quay. In the quay system of harbor planning, the reinforced bank, warehouse sheds, rail lines, and roadways are parallel to the ship; in a pier system the structure for handling cargo is at an angle to the other elements. Also called marginal wharf.

CHAPTER 1

INTRODUCTION

American seaports are a resource vital to domestic and foreign trade and national defense. They provide the essential interface for exchange of cargo between land and water modes of transportation. Seaports also benefit our economy significantly. A study funded by the Maritime Administration, Department of Commerce, estimates that in 1977 the port industry, directly or indirectly, contributed \$30 billion 1/ to the gross national product and provided employment for more than 1 million people.

In 1977, waterborne cargo in this country was about 1.9 billion tons, of which about half moved in foreign trade. Most of the waterborne cargo moved through the 130 or so seaports in the United States. About 10 percent of the tonnage was general cargo while 90 percent was bulk cargo.

Physically, seaports consist of a harbor, piers, and/or wharves, cargo-handling equipment, cargo-storage facilities, and railroad and/or highway connections. The economic activities of the seaports extend beyond the waterfront and include such things as marine insurance, international banking, and cargo documentation.

Port development in the United States has traditionally resulted from local initiative and investment. State and/or local governments have subsidized ports, but little Federal assistance has been rendered other than Federal improvement and maintenance of navigable waterways and installation and maintenance of navigational aids. While ports operate independently of the Federal Government, they are subject to many Federal, State, and local regulations.

Today most American seaports include (1) a private segment consisting of proprietary facilities for waterway-using industries and (2) a public segment that manages existing public port facilities and provides leadership for future port development. Generally, the private segment facilities are associated with oil refineries, steelmills, etc., and the cargoes handled are transported in bulk, in tankers and bulk carriers, and are usually destined for a specific user.

1/Excluding any offset due to the apparent oversupply of port facilities nationwide referred to by the Department of Transportation in appendix III.

The public segment facilities usually handle nonbulk general cargoes transported in general cargo or specialized general cargo ships in small quantities.

DEVELOPMENT SHIFTS FROM PRIVATE TO PUBLIC

Until this century, seaports were generally developed and operated by private organizations with private capital. Terminal facilities were constructed and operated by railroads, steamship companies, independent dock companies, and waterfront industries. In many cases uncoordinated development led to an excess of private terminals, chaotic traffic conditions in port areas, competition between the terminals, and unprofitable terminal operations.

The uncoordinated competitive activities of the private enterprises created an environment that led the establishment of public port authorities to coordinate development and modernize terminal facilities. Public port authorities are usually autonomous or semiautonomous agencies of State or local governments. They may have the power to issue bonds; levy taxes; and acquire, operate, and lease port facilities. Some port authorities manage and operate all of their facilities; that is, they handle all aspects of the ports' activities, providing operational personnel, equipment, etc., to users. At other ports, users, such as steamship companies and railroads, provide for and carry out all day-to-day operations. Many port authorities use some combination of these methods by operating some facilities themselves and permitting users to operate others.

Many public port authorities also operate or manage other income-producing facilities, such as airports, toll bridges, and office buildings. In some instances port operation is a minor activity in relation to these other functions.

PORTS COMPETE IN DUAL ROLES

American seaports have a dual role in the economy. They are part of the national transportation system and serve as gateways for international trade for the rest of the country. In this role their function is to exchange cargo between land and water carriers as quickly and efficiently as possible. Ports also have the role of an economic stimulator by attracting new industries to the port areas and by providing jobs and additional income to bolster the local economy.

American public seaports compete with each other in their attempts to attract cargoes, ships, and new industries.

Incentives used by the ports include offering terminal services below cost, providing specialized cargo-handling equipment, and providing industry with land and specially constructed marine terminal facilities. Some ports maintain staffs overseas to promote their interests.

In addition, major technological improvements in the transportation of general cargoes have significantly increased the competition between ports. Before the 1960s, cargo movement technology had not changed for many years. Ships were relatively small and correspondingly small quantities of cargo made up a full load. These limitations on amount of cargo and the lack of an efficient intermodal transportation network assured each port of cargo from its adjacent tributary area (hinterland). During the 1960s, ship size increased, requiring more cargo for a full load, and an efficient intermodal transportation network for moving general cargoes (containerization) was developed. Containerization permitted ports to expand their hinterlands. Expansion of ports' hinterlands greatly increased competition between ports in the same geographical region since many hinterlands now overlap.

FEDERAL INVOLVEMENT IN PORT DEVELOPMENT

The United States does not have a comprehensive nationwide port development plan. However, the activities of many Federal agencies affect port operations and development. A policy governing these activities has been one of not disturbing the competition between the ports. This policy emanates from the Constitution (article I, section 9) which states, in part:

"No preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another * * *."

The Congress has supported the growth of public ports by declaring its policy that all cities and towns located on harbors and navigable waters should have at least one public terminal. However, only limited Federal funds have been appropriated for the specific purpose of developing ports other than constructing and maintaining channels and harbors for navigational purposes and installing and maintaining navigational aids. Rather, port development has been a local or State effort.

Many Federal agencies affect port operations and development. The agencies having significant impact include the U.S.

Army Corps of Engineers; the U.S. Coast Guard, Department of Transportation; the Maritime Administration and the Coastal Zone Management Program, Department of Commerce; the Environmental Protection Agency (EPA); and the Fish and Wildlife Service (FWS), Department of the Interior.

Channel and harbor dredging by the Corps of Engineers has traditionally been the principal form of Federal aid to ports. The Corps investigates for the Congress to determine if port-requested dredging projects are feasible and have satisfactory cost-benefit ratios. It plans, designs, and constructs navigation projects and coordinates with environmental agencies and groups to determine the projects' environmental acceptability. It performs port studies and reports to the Congress on the commercial adequacy of ports. It administers laws for protecting and preserving navigable U.S. waters, including issuing or denying permits for water projects and for dumping dredged materials in ocean waters. The Congress has authorized channel and harbor projects estimated to cost nearly \$2 billion; about half million of the \$2 billion remains to be appropriated.

The Coast Guard installs, maintains, and operates navigational aids in channels and harbors. The Coast Guard also is currently installing and operating vessel traffic control systems in selected harbors.

The Maritime Administration supports and shares in the costs of port research and regional planning. The agency also provides technical assistance to ports and intermodal equipment and facilities programs.

EPA and FWS activities have had a major impact on port development. Environmental regulations concerning new construction, dredging, and expansion have increased costs of port operations and development. FWS activities affect ports because most are located on tidal waters. The greatest impact involves disposal of dredged spoils that adversely affect fish-spawning areas; fish nursery areas; shellfish beds; fish-harvesting areas; wetlands; and waterfowl nesting, resting, and feeding areas. Under the Fish and Wildlife Coordination Act, FWS makes recommendations to the Corps of Engineers on fish and wildlife matters. The Corps is required to consider the FWS recommendations equally with others which, at times, restricts disposal sites because dredged spoils may require expensive transportation to acceptable sites.

SCOPE OF REVIEW

In preparing this overview report, we contacted 21 public ports 1/ on the four coasts of the United States 2/ to obtain an understanding of the problems affecting port operations and development. Together, these ports handle about 45 percent of the total waterborne tonnage in the United States. We obtained and analyzed the latest available financial and cargo flow data for each port visited. We visited with or contacted key representatives of the American Association of Port Authorities, rail and truck intermodal carrier representatives, representatives of selected U.S. shipping lines, and other knowledgeable individuals to obtain their views on port operations and development. We also contacted Federal agencies whose activities affect port operations and development.

The succeeding chapters briefly discuss (1) the technological and regulatory problems affecting port operations and development, (2) public ports' financial problems, (3) Federal alternatives, and (4) Federal agencies' comments.

1/Baltimore, Maryland; Chicago, Illinois; Cleveland, Ohio; Corpus Christi, Texas; Galveston, Texas; Hampton Roads, Virginia; Houston, Texas; Long Beach, California; Los Angeles, California; New Orleans, Louisiana; New York, New York; New York/New Jersey Port Authority; Oakland, California; Philadelphia, Pennsylvania; Portland, Oregon; Redwood City, California; Sacramento, California; San Diego, California; San Francisco, California; Seattle, Washington; and Stockton, California.

2/The four coasts are the Atlantic, the Pacific, the Gulf of Mexico, and the Great Lakes.

CHAPTER 2

TECHNOLOGICAL AND REGULATORY PROBLEMS

AFFECTING PORT OPERATIONS AND DEVELOPMENT

Technological innovations in handling and moving cargo and increased regulatory requirements have profoundly affected America's seaports. Technological advances have

- resulted in larger vessels to reduce unit costs;
- required deeper harbors and ship channels;
- required new, larger, and capital-intensive port facilities; and
- resulted in a shift in the patterns of some cargo movement.

Continuation of these trends will require even deeper harbors, extensive capital investments, and greater concentration of more cargo in few main ports.

From the point of view of ports, increased Federal, State, and local regulatory requirements have

- compounded the problem of deepening harbors and ship channels by restricting disposal areas,
- delayed or increased the time needed to modernize ports,
- increased the costs of implementing employee safety and cargo security measures, and
- contributed to a shift in the patterns of some cargo movement.

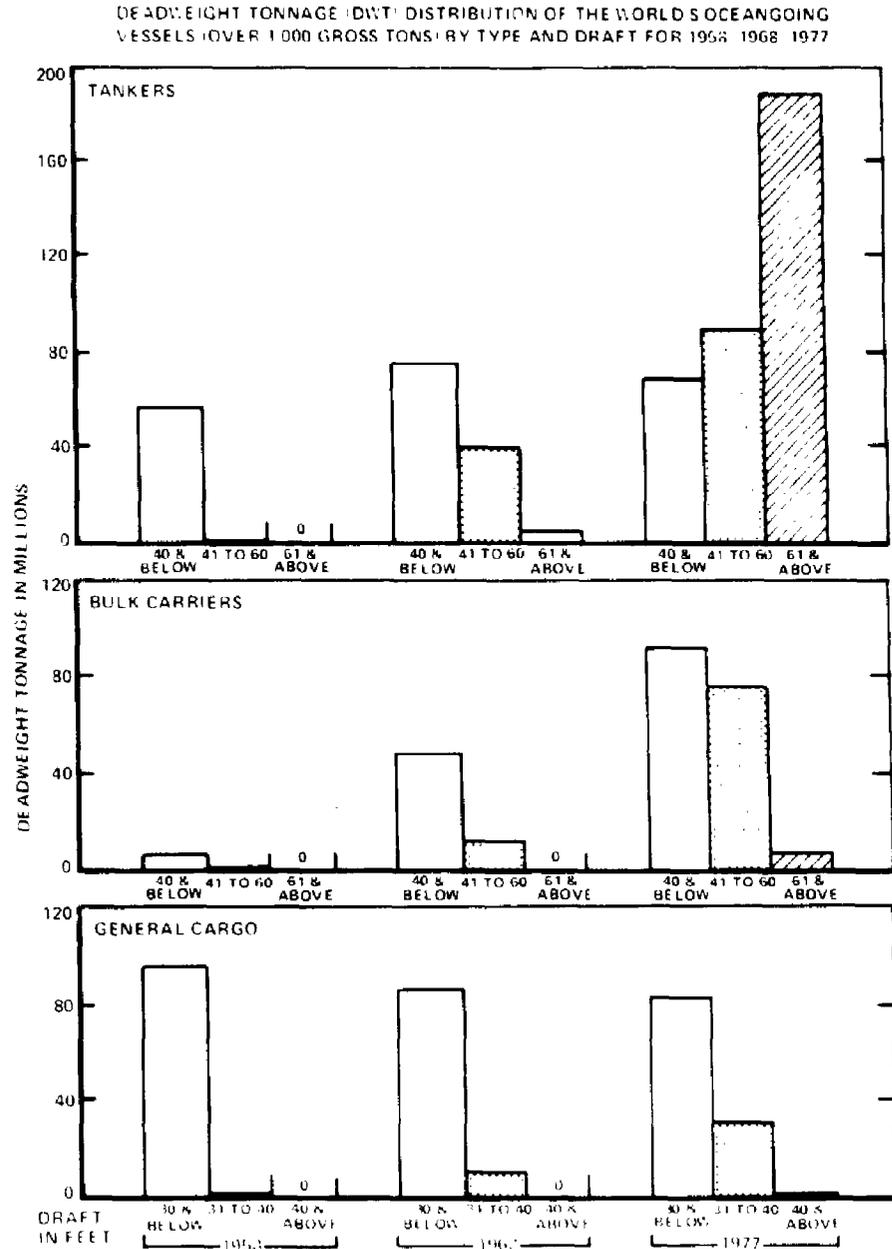
This chapter briefly reviews these developments.

IMPACT OF TECHNOLOGICAL INNOVATIONS

Development of large specialized ships that take advantage of the economies available through large-scale movement of cargo has significantly affected port operations and development. These larger, faster vessels can carry considerably more cargo over a given time and spend less time in port loading and unloading cargo.

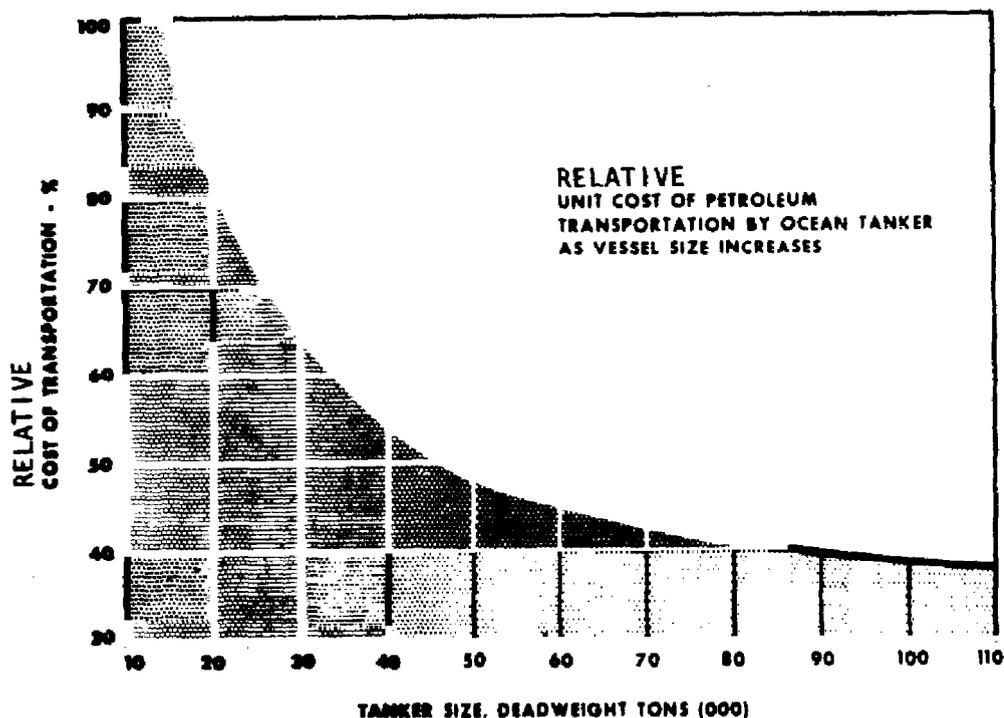
Larger vessels have reduced unit cost of marine transportation

The cost of transporting bulk cargoes has been reduced because of the shift to larger, faster vessels. The trend to larger specialized vessels has been dramatic for both tankers and bulk carriers. While not as dramatically, general cargo ships are also increasing in size. The following graph, prepared from Department of Commerce data, shows the increase in vessel size during the past 20 years.



The economies being realized in the marine movement of liquid cargo are shown below.

RELATIONSHIP OF TRANSPORT OPERATING COST TO TANKER SIZE



SOURCE: DEPARTMENT OF ARMY, CORPS OF ENGINEERS.

Similar savings are being realized in the large-scale movement of dry-bulk cargoes (i.e., grain, coal, ore, etc.). The current trend shows an increase in dry-bulk carriers ranging from 60,000 to 170,000 dwt with drafts of 45 to 65 feet. The following schedule shows the savings possible through large-scale shipments of dry-bulk cargo.

Savings Possible Through Large-Scale Shipments of Dry-Bulk Cargo (note a)

<u>Voyage distance (approximate miles)</u>	<u>Average cost per ton on a 30,000-dwt vessel</u>	<u>Average cost per ton on a 170,000-dwt vessel</u>	<u>Average savings per ton</u>
Long--23,000	\$34.62	\$17.35	\$17.27
Medium--16,000	24.30	11.08	13.22
Short--4,000	8.08	2.74	5.34

a/Data obtained from Port of Los Angeles.

The movement of general cargo has been the most radical change attributable to technological advances. Not only have the ships increased in size and speed, but specially designed ships and specialized cargo handling techniques have substantially reduced the time and cost of a vessel's stay in port, labor costs, and possibility of cargo damage and theft. While these specially designed ships account for less than 20 percent of the general cargo vessels engaged in U.S. foreign trade, they now carry an estimated two-thirds of the general cargo tonnage.

Three types of specialized general cargo ships are in use today; each uses some form of preloading which can be done away from the port. These types are the containership, the barge-carrying ship, and the roll-on roll-off (RoRo) ship. Each type is described below.

Containerships--Specialized vessels designed to facilitate the movement of general cargo in preloaded large (8' by 8' by 20' or 40') standard-sized containers. Containers may be transported by rail, highway, air, or water. They may be enclosed and weathertight and are reusable. Cargo may be loaded in containers or unloaded from containers anywhere, and containers are used routinely to transport cargo from inland producers on one side of the ocean, for example, to inland consumers on the other side.

Containers require large capital investments, but they reduce labor cost by minimizing cargo handling and also reduce cargo damage and theft. To be cost effective, container movement must be rapid with fast "turnaround" at all points. Effectiveness requires efficient inland transportation systems in both the loading and unloading countries, sophisticated capital-intensive terminal facilities at port of loading and port of discharge to facilitate rapid vessel turnaround, and specially designed containerships.

The first generation of containerships, introduced in the 1960s, were about 500 feet long and carried about 500 20-foot containers. Some vessels of the latest generation are more than 900 feet long, carry about 3,000 20-foot containers, and have drafts of about 43 feet--too deep for some U.S. ports. Containerships can be loaded and unloaded four to five times faster than conventional general cargo ships. With greater capacity and speed, one containership can effectively replace four or five conventional ships.

Barge-carrying ships--Another type of specialized vessel is designed to take advantage of inland ports and river systems, such as the Mississippi system in the United

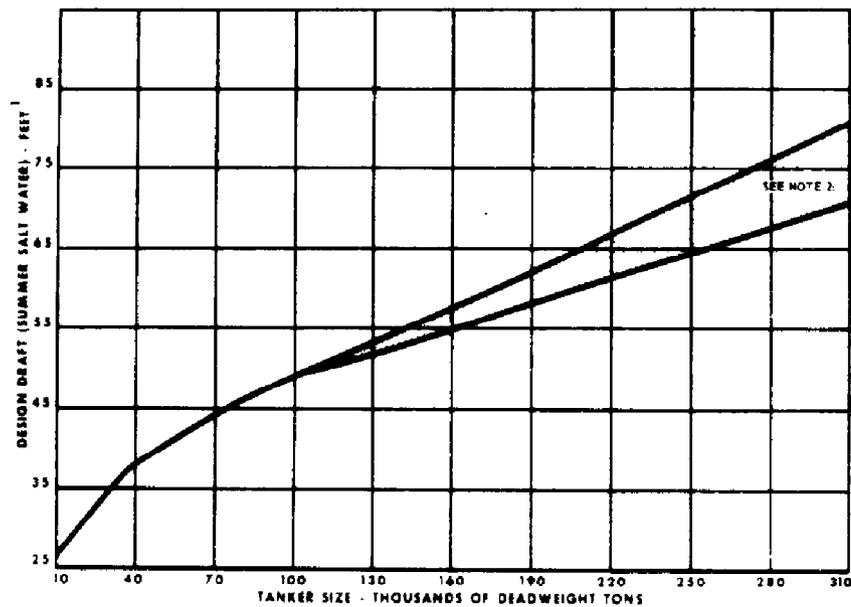
States and the Western European waterways. The barges may be preloaded with general cargo or containers at an inland city, towed to the seaport, loaded on the barge-carrying ship, unloaded in a foreign nation, and towed to another inland port. The barges may also be used to provide access to shallow-water terminals in various ports that cannot accommodate deep-draft oceangoing vessels. The impact of this type of vessel is not as great as that of container-ships because there are relatively few barge-carrying ships.

Roll-on roll-off ships--RoRo's are specially designed vessels that carry loaded trailers, trucks, cars, etc., that are loaded or unloaded on their own wheels through stern ramps or side ports. Some RoRo's are combination vehicle and container carriers. Their impact is not as great as that of containerships since there are fewer RoRo's.

Deeper harbors and ship channels required

The trend to larger and deeper vessels has prompted many ports to request the Corps of Engineers to deepen their harbors and channels. The relationship between a vessel's size and draft is shown below.

RELATIONSHIP BETWEEN DEADWEIGHT SIZE AND VESSEL DRAFT



NOTE 1 FOR SAFETY PURPOSES REQUIRED CHANNEL DEPTHS MUST GENERALLY BE 5 TO 11 FEET GREATER THAN THE MAXIMUM DRAFT OF VESSELS USING THE CHANNEL

NOTE 2 BEYOND 100,000 DWT DATA AVAILABLE INDICATES A RANGE OF POSSIBLE DRAFTS DEPENDING UPON THE DESIGN CHARACTERISTICS OF THE VESSELS INVOLVED

SOURCE DEPARTMENT OF ARMY CORPS OF ENGINEERS

Ports concentrating on general cargo (i.e., container-ships) have generally requested the Corps to dredge to a depth of 45 feet. Ports concentrating on bulk cargo have requested depths of 50 feet or more.

<u>Port area</u>	<u>Current depth</u>	<u>Requested and authorized depth</u>	<u>Current estimated cost (note a)</u>
		(feet)	(millions)
New York/New Jersey (Port Newark/ Elizabeth channel)	35	45	\$160
Baltimore (inner port and approach channel)	42	50	230
Galveston (inner and outer channels)	40	56-58	<u>b</u> /90-120
San Francisco Bay to Stockton	<u>c</u> /30-50	<u>c</u> /35-55	162
Los Angeles/Long Beach Harbors	35	45	44

a/Total estimated cost, including Federal and non-Federal funds.

b/Bids are out for private dredging with non-Federal funds.

c/Minimum and maximum depths.

If the Nation is to realize the reduction in transportation costs that is possible through using larger vessels, harbors and channels will have to be deepened or new deep-water ports will have to be developed. Many problems are associated with the deepening of harbors and channels, including going through rock in a growing number of east coast ports, disposal of the material excavated in an acceptable environmental/ecological manner, and constraints imposed by the Corps of Engineers' budget.

Benefit/cost studies are needed to evaluate any national effort to finance new, larger, and capital-intensive port facilities

In addition to deeper harbors, the new larger vessels, with their considerable cargo, require extensive shore

facilities. Extensive capital investments have been made in facilities, such as oil tank farms and grain storage areas, to handle bulk cargoes. Similar large capital investments in facilities are required to handle the nonbulk cargo carried by container and other specialized ships.

The benefits (savings in transportation costs) of containerized shipments cannot be fully realized unless specially designed port facilities are available. At a minimum, ports need:

- Marginal wharves where containerships can moor with one entire side of the vessel next to the wharf. These wharves have to be strong enough to support the weight of container cargo and container-handling equipment.
- Twenty to 50 acres of backup land for container staging and storage for each container berth.
- Specialized container-handling equipment like cranes and straddle carriers.
- Efficient highway and/or rail connections so that containers can be sent or received from inland points expeditiously.
- Adequate ship channels to the port.
- Ports which can generate enough cargo.

In any assessment of changes in U.S. policy, the costs of accommodating the containerized shipments need to be compared with the benefits realized in the form of lower costs of international trade. National defense considerations, which do not necessarily favor major consolidation of traffic in a few ports, must also be evaluated.

The cost of modernizing port facilities is high. Over \$3 billion has been invested since World War II. Ports which decided to compete for container trade were faced with large investments in terminal facilities. Marginal wharves had to be constructed, cargo storage areas acquired, and specialized cargo-handling equipment for containers acquired. For example, the bi-State public port of New York/New Jersey has invested more than \$450 million, and the public port of Oakland has spent more than \$200 million.

Modernizing port facilities has posed problems for many public ports. Some ports, such as New York City (different from the bi-State port of New York/New Jersey, which is located primarily in New Jersey) and San Francisco, have

obsolete piers instead of marginal wharves as well as inadequate backup land. As a consequence these ports are losing cargo to more modern adjacent ports. A port like New Orleans, located in a congested city area, has built new facilities in an outlying area because adjacent land was committed to other uses and could not be obtained for container storage.

Shift in patterns of some trade

Containerization has brought about new methods of general cargo transportation which have stimulated trade at some ports and decreased it at others. The large investments in terminal facilities, container-handling equipment, land, channels, and containerships make it necessary to concentrate traffic in a few highly efficient "loadcenter" ports to maximize return on investment. Loadcenter ports typically are located near large population centers near or on the coasts and can attract cargo from large hinterlands in the United States and from overseas. New York/New Jersey, Los Angeles, Long Beach, Oakland, Seattle, and Baltimore are examples of loadcenter ports.

The use of containers and the development of loadcenter ports has led to the concepts of "minibridge" and "microbridge." Minibridge is a joint water/rail movement in which a ship's cargo is unloaded at a coastal port and moved overland by rail to a port on the opposite coast. This method competes with the all-water movement through the Panama Canal. The cargo moves under a single bill of lading at a single tariff rate. Under the tariff filed with the Federal Maritime Commission and the Interstate Commerce Commission, the steamship line and the rail carrier agree on the division of the rate. A shipment from Japan to New York provides an example. A steamship line collects the total freight costs from the Japanese shipper, carries the cargo by sea to a west coast port, transfers it to a rail carrier, and pays the rail carrier for delivery to New York. The rail carrier delivers the cargo to the New York railhead, where it is accepted by the consignee. Outbound, the operation is reversed.

Microbridge is similar, but service is to or from a coastal port and a rail terminal in an inland city. The cargo is also moved under a single tariff rate filed with the Federal Maritime Commission and the Interstate Commerce Commission.

The advantages of these concepts for shippers are that they are faster and the costs are competitive with those for the all-water route. The advantages for shipping companies are shorter voyages and fewer ports of call. New containerships can cost as much as \$25,000 a day to operate so that

the savings are substantial when voyages are shortened and highly efficient loadcenter ports are used.

While reliable statistics concerning the effects of minibridge and microbridge are not available, the Federal Maritime Administration estimates that three times as much east coast U.S./Far East bridge traffic moves through west coast ports as compared to west coast U.S./European bridge traffic moving through east coast ports. Consequently, east coast ports have a net loss of ocean traffic. Estimates are that the Port of New York/New Jersey lost 800,000 tons of cargo to minibridge in 1977 while other east coast ports lost lesser amounts.

Ports which have lost cargo and labor unions which have lost work because of these systems have challenged them in briefs filed with the Federal Maritime Commission. The complainants allege that their ports lost cargo because of the systems, that the systems gave preference unfairly to certain ports, and that they adversely affected the economies of the complainants' port areas. To date the Commission has upheld the minibridge and microbridge tariffs.

IMPACT OF REGULATORY REQUIREMENTS

Advances in maritime technology and cargo-handling methods have been paralleled by increasing social awareness of the effects of ports' activities on the environment and employee safety. In addition, increased Federal requirements for tighter cargo security has affected all ports. These Federal requirements have increased port costs and in some instances resulted in extensive delays in modernization efforts. The Maritime Administration estimates that collectively these Federal requirements have increased costs to ports by about \$42 million a year during 1970-76, and the costs are expected to increase to \$64 million a year in 1977-80. Further, many Federal environmental protection laws have been reinforced by more stringent State and local laws.

Problem of deepening harbors compounded

The effects of environmental legislation, regulations, and concerns have severely affected dredging operations necessary to deepen harbors and channels. In general, the Corps of Engineers will not authorize private dredging nor perform congressionally authorized dredging until objections of Federal, State, and local environmental agencies have been satisfied. In some instances, the dredged spoils must be transported to distant areas or diked land-disposal areas have to be constructed. According to 1977 Corps of Engineers' studies, dredging costs can be increased by 200 to 1,000 percent because of added transportation or dike construction costs.

Some Federal laws affecting dredging are:

- The Federal Water Pollution Control Act of 1972.
Requires the Corps to specify a disposal site for dredged spoils before issuing a permit for dredging. Guidelines are developed jointly by EPA and the Corps. EPA is responsible for issuing permits to regulate discharge of pollutants in U.S. waters. A separate permit program for disposal of dredged or fill material is administered by the Corps.

- The Fish and Wildlife Coordination Act of 1958.
Requires the Corps to consult with appropriate Federal and State agencies on conserving wildlife before undertaking public works and before issuing permits for work in navigable waters.

- The National Environmental Policy Act of 1969.
Established the Council on Environmental Quality. Requires Federal agencies to consider environmental and other factors in evaluating permit applications for work in navigable waters. Requires preparation of an environmental impact statement before issuance of a permit for any major action which may affect the environment. Federal programs must be coordinated with all agencies whose activities might be affected.

Examples of the additional costs of transporting dredged spoils include the Ports of Redwood City and Tampa. In Redwood City the dredged spoils were disposed of at a site 24 miles away at a cost 2-1/2 times greater than an environmentally unacceptable disposal site near the harbor and channel. In Tampa, acquisition of an environmentally acceptable disposal site added \$4.5 million to the cost of dredging.

Other environmental costs

Some public ports with bulk cargo operations have problems controlling air pollution. The Clean Air Act of 1970 encourages States to meet national air standards. This act, implemented through the States, affects public ports involved in the storage and transfer of bulk commodities by requiring them to install pollution-control equipment.

Examples are the Ports of Seattle, Portland, Sacramento, Long Beach, New Orleans, Houston, Galveston, and Corpus Christi. Often the problem is dust control in handling grain and other bulk commodities. The Port of New Orleans spent \$1.5 million for dust control in the

period 1970-76 and expects to spend \$4.5 million more in the 10-year period ending in 1987. The Port of Galveston spent \$2.16 million on dust collection for grain elevators in the period 1970-76 and expects to spend \$1.6 million more for that purpose. Similarly, the Port of Seattle spent \$1.4 million in 1970-76 for dust control and other air pollution problems.

Modernization delayed

In addition to increasing the cost of port operations, environmental and other concerns and regulations have increased the time required to modernize the facilities and harbors. For example, it takes about 18 years from the time a dredging project is proposed until it is completed. Ports assert that these delays are expensive and could result in loss of cargo. Some examples of delays experienced by ports are:

- The Port of Long Beach has been trying to construct an oil-processing facility for lease to private interests since 1974. According to port officials, over 700 permits must be obtained from Federal, State, and local authorities before construction can begin. We were told this process is costing the port millions of dollars.

- The Port of Baltimore maintains its dredge disposal costs have increased 400 percent because of delays in obtaining Federal and State permits. The port received congressional authorization to deepen its current shipping channel from 42 feet to 50 feet. The port proposed to provide a diked land-disposal site for dredged spoils on two nearby islands. The Corps of Engineers issued a permit for the site in November 1976. By the end of 1976 the port had spent about \$1.5 million on planning and site preparation and planned to spend \$30.5 million more on the project through 1980. An environmental group contested the project in Federal court. On October 20, 1978, the court held that the Corps had exceeded its authority in granting the permit and declared it invalid on the grounds the project would adversely affect a fish habitat. At present the Port of Baltimore is investigating solutions to the problem.

Increased costs for employee safety and cargo security

Public ports have incurred costs through meeting standards of the Occupational Safety and Health Administration, which administers Federal regulations insuring employee safety. For example, the Port of New Orleans spent \$3.4 million for employee safety in 1970-76. In the same period the Port of Houston reported similar costs of \$4.8 million, and the Port of Seattle, \$2.4 million.

Ports are also incurring costs for cargo security precautions stimulated by Executive Order 11836, dated January 27, 1975, and U.S. Customs regulations. The order established a national cargo-security program entailing the cooperation of Federal, State, and local agencies and private activities concerned with cargo handling and storage. Customs regulations make the granting of permits to unload cargo dependent on provision of adequate secured cargo space. The Port of Houston reported expenditures of about \$8 million under this program in 1970-76; the Port of New Orleans, about \$7 million in 1966-75.

Possible impact of Coastal Zone Management Program

Ports' efforts to expand facilities to accommodate expected increases in trade may be inhibited by the Coastal Zone Management Act of 1972, as amended. The U.S. coastal zones, 1/ including the Great Lakes, contain some of the Nation's most valuable assets. Consequently, they have been subjected to increasing and competing demands. Therefore, the Coastal Zone Management Act of 1972, as amended (Public Law 92-583), was passed to give States incentives to use their coastal resources wisely.

The act is administered by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, Department of Commerce. An official of that Office told us that a general policy is emerging to encourage future

1/The coastal zone includes the coastal waters and the adjacent shorelands. The zone stretches inland only as far as necessary to control shorelands whose uses directly and significantly affect the coastal waters. The zone typically includes beaches, marshes, estuaries, and sand dunes; ports; and industrial, commercial, and residential complexes.

development primarily in those areas which have already experienced some development. If this policy continues, future expansion plans of ports will involve acquisition of expensive developed areas adding to the financial strain of the public ports. In some instances the policy may preclude expansion.

Although only about one-third of the coastal States have federally approved coastal zone management plans, the impact of the act is already being felt. California, based on the implementation of its federally approved plan, disallowed an oil-cargo-receiving facility in Santa Barbara County. The State wanted the facility to locate in a developed area which the company believed was too expensive. A compromise was later reached, however, when California allowed an existing facility to be expanded. Delaware recently submitted its draft coastal zone plan for Federal review. The plan would prohibit the siting of any heavy industry in part of the coastal zone and could increase the cost of acquiring land for future port development.

Constraints have contributed to shift
in trade pattern and could
result in loss of growth

Environmental constraints have and may in the future contribute to the shift in trade patterns. For example, the delays experienced by the Port of Baltimore have resulted in the loss of some trade. Certain operators of deeper draft container vessels have had to eliminate Baltimore as a port of call due to occasional bottom-scraping incidents in access channels. Port officials believe that unless new dredging and channel depth maintenance is undertaken in the port's inner harbor, Baltimore stands to lose some 10 million tons of cargo per year in coal and ore shipments.

Some ports need to fill in tidelands to acquire additional land for expansion. However, ports have been restricted in trying to do this. For instance, we were advised by port officials in Long Beach that the port's major limitations to expansion are lack of land and environmental constraints. They informed us that unless they can expand their land by filling in tidelands, the port cannot grow and cargo may be lost.

CHAPTER 3

PUBLIC PORTS' FINANCIAL PROBLEMS

Public ports have generally met the financial challenges of modern technological innovations and of environmental and social requirements. In doing so, however, they have incurred large long-term debts. Many ports forecast a need for additional capital financing to expand terminal facilities and deepen some access channels and berthing areas to accommodate expected trade increases. 1/

PORTS' FINANCIAL CONDITIONS

The following table is a representative sample of ports' financial conditions.

<u>Port</u>	<u>Period</u>	<u>Marine</u>		<u>Gross profit (note a)</u>	<u>Debt servicing (note b)</u>	<u>Long-term debt</u>
		<u>Income</u>	<u>Expenses</u>			
----- (millions) -----						
Chicago	FY 1977	\$ 1.3	\$ 0.4	\$ 0.9	\$1.2	\$ 16.8
Cleveland	CY 1977	0.7	1.2	(0.5)	0.1	0.8
Corpus Christi	CY 1977	5.3	4.6	0.7	0.8	34.7
Hampton Roads	FY 1977	3.8	2.8	1.0	2.6	44.9
Houston	CY 1977	22.3	19.0	3.2	8.6	102.8
New Orleans	FY 1977	20.9	13.6	7.3	6.1	86.3
Long Beach	FY 1977	22.8	9.0	13.8	3.5	26.8
Los Angeles	FY 1977	32.5	16.5	16.0	4.1	35.3
Sacramento	FY 1977	6.0	5.1	0.9	1.7	16.6

a/Gross profit before depreciation and interest expense.

b/Debt servicing includes principal and interest.

As shown above, some ports do not earn enough to service their debts or--at times--cover operations. Communities have subsidized the deficits because of the economic benefits the ports provide.

1/Dredging of major shipping channels is a Federal responsibility, but ports are responsible for dredging in berth areas and some access channels.

Types of long-term financing

The capital-intensive nature of today's specialized movement of cargo has forced ports to enter into long-term borrowing commitments. Long-term borrowing is obtained by the issuance of bonds by the port agencies or by the governing public bodies. Different types of bonds are used depending on financial market conditions, the ports' financial condition, the ports' autonomy in raising and using capital, and support of the local communities. Traditional methods used are:

--General obligation bonds--These are usually tax supported. The State or local governments, acting as the legislative parents of the port authorities and as issuers of the bonds, provide collateral security by pledging their full faith and credit.

--Revenue bonds--The ports may use revenue bonds if port facilities can be leased or operated at a level that will generate income sufficient to cover the principal and interest on the bond issues. Interest rates are usually higher for revenue bonds than for general obligation bonds since the risk is greater.

--Industrial revenue bonds--Bonds issued for port facilities and secured by specific project revenues of an industrial sponsor or an industrial user's corporate guarantee.

Raising additional capital funds for expansion through revenue bonds will be difficult for ports operating at a loss. Instead they would probably have to resort to general obligation bonds. Issuance of general obligation bonds may be subject to a voter referendum. Acceptance or rejection of such financing by the local communities depends on the public's view of the benefits obtained by port development as opposed to benefits derived from investment of bond proceeds in schools, hospitals, parks, etc.

Ports operating at a loss may face financing difficulties

Before containerization, cargo handling and movement was a labor-intensive industry, and the direct benefits to the local community were readily apparent. The capital-intensive nature of handling and movement of cargo has substantially reduced the amount of direct labor required to

move cargo. For example, membership in the union of New York stevedores has decreased from 40,000 in mid-1950 to 11,000 in 1978, and the union's register is closed to newcomers. The reduction in the direct labor involved in moving cargo at the port, together with economic factors and the inability of State and local governments to meet the demands for service in all program areas, has influenced communities to reconsider the use of general obligation bonds to finance port development.

The trend toward revenue bond financing is evident in two studies conducted by the American Association of Port Authorities. The first study, covering 1966-72, showed that 59 percent of the funds used to finance port development had been derived from general obligation bonds, tax levies, subsidies, etc; the second study, covering the period 1974-76, showed that only 29 percent of the funds had been derived from these sources. Instead, most funds now come from revenue bonds and retained earnings.

Specialized movement of cargo, while benefiting the Nation as a whole, may have adversely affected some ports that operate at a loss or on marginal profits. In view of the current trends to decrease government spending and the difficulties being experienced by some communities in obtaining financing, it may be difficult to persuade communities to support further port expansion. This is also true of projects to deepen harbors and channels. While the Corps of Engineers provides dredging for congressionally authorized channel projects, costs to the ports for dredged spoils disposal may be too great a strain on port resources.

Because of these factors, ports, as represented by the American Association of Port Authorities, have reversed their traditional policy of opposing Federal aid to ports. They now endorse legislation to provide Federal aid for "federally mandated costs"; i.e., those costs for environmental protection, employee safety, and cargo security attributable to Federal legislation and regulations. Legislation providing such aid has been introduced but not enacted.

CHAPTER 4

FEDERAL ALTERNATIVES

Increasing capital requirements may result in future requests for Federal assistance to America's seaports. Proposed legislation to provide assistance has been introduced in the past but not enacted. We are offering some alternatives for consideration, including advantages and disadvantages in formulating or reviewing any future legislative proposals.

Federal assistance to seaports is a controversial issue in the seaport industry. Collectively ports have opposed Federal assistance, other than dredging and navigational aids, because they did not want Federal control over their activities. This opposition has softened in recent years. Ports now favor Federal assistance, without Federal control, to offset "federally mandated costs"; i.e., those for protection of environment, cargo security regulations, and employee health and safety regulations.

Another problem will be whether ports, or the Nation, can afford the costs of deepening channels and harbors to accommodate the larger vessels currently in service or expected to be in service. Dredging costs have doubled in the past 5 years. Alternatives to deeper dredging are available, of course, including offshore terminals for large tankers, transshipment of cargo in smaller vessels from neighboring countries that have deep water ports, offshore lightering from large vessels to smaller vessels or barges, and continued use of small-sized vessels in U.S. trade. These alternatives are costly and deprive the Nation of the benefits of economies of scale available through using larger vessels. Extensive cost/benefit analyses, not a subject of this report, have been and will have to be made to determine the best approach.

When all benefits and costs are considered, it is possible that Federal efforts to change the rate at which new technology is adopted or to relieve financial problems of local ports may not be justified.

MATTERS FOR CONSIDERATION BY THE CONGRESS

In view of the importance of ports to the economic well-being of the Nation and the increasing difficulty many ports are encountering in obtaining funds from traditional sources, should the Federal Government have a role in port development and, if so, what should that role be? The Congress will

have to decide. The following discussion indicates some of the options that are available. Key issues involved in evaluating these options are

- the degree to which Federal assistance should reinforce or resist the economic forces which are tending to concentrate business in a relatively few ports and
- who should pay for any special port development programs.

1. Continuance of existing Federal role.

Ports that operate at a profit would probably prefer this choice. On the other hand, ports that do not operate at a profit would probably welcome some type of assistance, so long as the price of Federal interference or control was not too high. Continuing the current Federal role of non-interference in port development would probably result in the continued growth of a few loadcenter ports on each coast. Smaller ports would probably lose more and more cargo unless they specialized in handling specific cargoes. Aggressive and innovative management by local port authorities will determine the growth of each port. The adjustment for ports that do not keep pace with their competitors might be severe.

Ports have the option to increase fees charged to users of their facilities; this step would require no additional Federal assistance or action. Theoretically these charges could be large enough to offset the expense of operating the port facilities and to service existing debts as well as accumulate capital for future expansion.

A 1978 Maritime Administration study entitled "Current Trends in Port Pricing" points out that, historically, user charges have not offset costs and that there are many problems in increasing user charges to cover all costs. Some of these problems are that ports have long-term leases with tenants and charges cannot be increased, ports are reluctant to increase charges because they may lose cargo to a nearby port, some ports are more efficient than others because of more modern facilities, etc. The study makes recommendations to overcome the problems and objections with the goal, in time, of increasing port usage charges to a point of reasonable relationship to cost. Since publication of the study, the American Association of Port Authorities has requested the Maritime Administration to proceed in developing a uniform ratemaking formula that would result in bringing port prices closer to costs. The Maritime Administration will attempt cooperative research in this area.

The subject of possible loss of cargo to ports in adjacent countries is not discussed in the study. If U.S. ports raise their charges and ports in adjacent countries do not, loss of cargo is possible, especially if the countries involved also have efficient intermodal transportation networks that tie into the U.S. transportation system.

2. A national plan for port development, including Federal underwriting of capital investments and Federal subsidies of operating deficits.

The advantages of this choice are the potential for determining the best number and spacing of ports, within the context of an integrated national transportation system, to best meet the commercial and national security needs of the Nation. This option would permit an analysis of the costs, benefits, cargo distribution, and legal implications of alternate policies with respect to port development and their role in the national transportation network. The option would also permit elimination of excess or duplicate marine terminal facilities; an orderly investment in navigation and traffic control systems; a systematic approach to selection of channels and harbors to be dredged; a comprehensive approach for marine estuarine preservation; and elimination of competition between ports.

The disadvantages of this choice are that there would be no guarantee it would work any better than the existing, locally motivated port development; employment opportunities and economic development would shift from one section of the country at the expense of another section; shippers and receivers of cargo would have limited choice in routing cargo shipments; flexibility and adaptability of the existing approach to meet national emergencies might be lost; and localities would lose the initiative to be self-sufficient and innovative.

3. A national plan for port development, financed by a special tax on port users, patterned after the airport development program.

Airports and seaports face similar problems in keeping pace with technological advancement and coping with environmental and social constraints imposed by Federal, State, and local agencies. Both airports and seaports have large capital requirements, and only the larger and busier activities generate revenues that approach their capital development needs.

Unlike seaport development, which is a State or local effort in the United States, the Federal Government is responsible for planning and guiding the development of the national civil airport system. The Airport and Airways Development Act of 1970, as amended, gave the responsibility of promoting airport development to the Federal Aviation Administration (FAA). FAA assists States, regions, and communities by providing funds for planning and making matching grants for development, including land acquisition, construction, and alterations. FAA has developed a National Airport Systems Plan, and only the airports that are part of it receive development grants financed from dedicated taxes on air system users. The act set authorized funding levels for the grant programs and established formulas for distributing them.

This choice would require a national plan, and the advantages and disadvantages cited under option 1 would apply. The local entity would own and operate the ports; however, local plans would have to mesh with the national plan to merit funding. Funds derived from the activities of larger and busier ports would, in part, be used to finance development at smaller, less active ports. Airport hinterlands are more discrete than seaport hinterlands and, unlike seaports, airports generally do not compete with each other. This difference would have to be considered in allocating any funds. Ports that do not form a part of the plan, while not precluded from operating, would not receive Federal assistance.

4. Federal underwriting of ports' financial needs by guaranteeing loans.

This choice would probably reduce ports' interest costs on borrowed funds. Ports that operate at a profit would not need such assistance. Ports that do not operate at a profit may be able to use help if they have difficulty obtaining funds. Underwriting of ports' financial needs by the Federal Government would leave the initiative in the hands of local port authorities. However, the Federal Government would probably have to have a national port plan against which proposed projects could be measured to avoid contributing to redundancy of facilities. The advantages and disadvantages discussed in options 1 and 2 would then apply.

5. Federal financing of federally mandated costs.

Ports support this choice on the grounds that non-revenue-producing expenses imposed by Federal regulations (i.e., those for environmental protection, employee health

and welfare, and cargo security) should be borne by the Government. The ports' rationale is that collectively their efforts benefit the national economy and they should be reimbursed for these costs. One disadvantage of this choice is that it could establish a precedent, if granted, and start an avalanche of similar requests from other publicly owned and operated enterprises, such as public utilities, public transportation companies, etc. A strong counterargument to the ports' rationale is that social and environmental regulations are simply a cost of doing business in today's world.

CHAPTER 5

AGENCY COMMENTS AND OUR EVALUATION

Comments on this report were solicited from the Departments of Commerce, the Army, Transportation, and the Interior. These comments are included as appendixes I through IV. Comments were also solicited from EPA, but the Agency declined to respond. The comments highlight agencies' perspectives on current issues of U.S. port development and constitute an important part of this overview study.

DEPARTMENT OF COMMERCE

According to the Department, the report provides a contribution in the area of port development and related financial requirements by collating various related issues and developing options with some assessment of their respective viability. The Department also feels the report's observations are generally consistent with those of contemporaneous studies. The Department correctly points out that some of the other studies are more detailed in certain respects and should be considered in conjunction with this report for a comprehensive assessment for any future action.

According to the Department, the causes of public port's financial problems are more reflective of the overall reevaluation of tax-supported financing and market forces than of the perceived public reaction to direct employment losses in local ports.

DEPARTMENT OF THE ARMY

The Department states that the report gives a brief picture of the complex issues involved in planning for seaports and the general problems ports face. The Department points out that a free competitive enterprise philosophy is bound to result in misallocation of resources but that, over time, they are leveled by business forces of a relatively free economy. According to the Army, a national plan for seaports is reasonable only to the extent that public policy would permit or require interjection of the Federal Government. The Department also correctly points out that national defense and security must be a basic ingredient of decisions involving subsidies. The Department does not comment on the pattern of future port development that it feels would be preferable. The Department notes, however, that past experience has been that the allocation of resources from the private sector has been sufficient to serve defense needs.

Unlike the Department of Commerce, the Corps of Engineers believes that the low impact that port development has, or is thought to have, on the community job market is the reason traditional sources of funds (i.e., general obligation bonds) have dried up.

DEPARTMENT OF TRANSPORTATION

The Department in general has no major disagreements with the report, and it notes that the difficulties described in the report, including the levying of environmental charges on port operations, are a natural consequence of the competitive system under which ports operate. The Department does not believe the material presented supports a conclusion that Federal financial assistance is needed. According to the Department, it has not been demonstrated that there is any shortfall or deficiency in port capacity that is inhibiting the flow of commerce on a national scale.

The material in the report is not intended to justify Federal financial assistance to seaports. Rather, it is intended to summarize financial problems facing a vital link in the Nation's transportation network and options that are available for congressional consideration.

DEPARTMENT OF THE INTERIOR

The Department believes the report overemphasizes the activities of Federal environmental agencies in increasing costs of port development and delaying port modernization. The Department further points out that environmental agencies' actions are not arbitrary but are based on Federal laws, policy, and court decisions.

We agree that the actions of the Department are not arbitrary and are based on current laws and policy. We also recognize that measuring the costs of the consequences of environmentally motivated actions is easier than measuring the value of the benefits of these actions. Nevertheless, the costs involved are real and, we believe, have to be recognized.



UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Maritime Affairs
 Washington, D.C. 20230

JUN 8 1979

Mr. Henry Eschwege, Director
 Community and Economic Development
 Division
 United States General Accounting
 Office
 Washington, D.C. 20548

Dear Mr. Eschwege:

In accordance with your letter of May 15, 1979 addressed to the Secretary of Commerce, we have reviewed the proposed report to the Congress entitled, "Observations on American Seaports - Importance, Developmental Constraints and Future Implications."

While the Draft Report is more expository than analytical, the varied observations are generally consistent with those of other contemporaneous studies of U.S. port development and related financial requirements conducted by this Agency, the National Academy of Sciences and others.

As some of these other studies are more detailed in certain respects it would seem appropriate to recommend that this forthcoming document not be taken in isolation but rather in conjunction with more definitive information developed by this and other federal agencies as well as by affected public port authorities.

This Draft Report does provide a contribution in this area by collating a variety of related issues and developing options with some assessment of their respective viability. More specific treatment of the financial requirements and the alternate federal choices to deal with the existing and future conditions of the public port industry must be undertaken, however, if the Congress is to have a realistic and comprehensive assessment for any future action.

The sheer number of marine terminals (2300), broad economic impact (\$30 billion/1977) and disparate character of American ports make systemic generalizations difficult. Some common problems are readily identifiable such as the increasingly capital-intensive requirements of marine terminals as well as local expenditures for non-revenue producing actions and improvements "mandated" by federal regulations. The underlying causes of public port financial problems are more complex, however, and the Draft Report offers only partial, and possibly misleading, conclusions. The trend away



from port general obligation bond financing, for example, is more reflective of the overall re-evaluation of tax supported financing and market forces than of the perceived public reaction to direct employment losses in local ports, as written in the Draft Report. Moreover, many of the statistics and supporting data are undocumented and thus somewhat suspect.

Additionally, the analysis of each of the alternate federal choices is quite limited. The initial sentence of the final Chapter states: "Increasing capital requirements will undoubtedly result in some federal assistance to America's seaports in the future." Such a conclusive introduction requires more comprehensive analysis of the alternatives than that now depicted. The presentations on European/Japanese port policies and our national airport subsidy program provide interesting insights but are not directly comparable nor entirely relevant to our diverse U.S. system of seaports that have developed over a period of 200 years without significant federal involvement. More attention should also be paid to the many and varied programs, regulations and aids of many federal agencies that currently affect port financing and development.

We have enclosed a number of comments on minor points raised in the Draft Report which we believe could be adjusted to improve the credibility.

Your courtesy in providing us with the opportunity to review the material in draft form is appreciated. We trust our comments will be helpful.

Sincerely,

SAMUEL B. NEMIROW
Acting Assistant Secretary
for Maritime Affairs

Enclosure

Comments of Maritime Administration

on

"Observation on American Seaports - Importance,
Developmental Constraints, and Future Implications"

GAO Draft Report

The following are reactions to specific comments in the subject draft:

Pg.ii - "The cost to the ports of deepening channels, etc...":

Significant local costs also result from delays, bureaucratic overlap and permitting duplications that are difficult to quantify but amount to cargo losses and increased development expenditures.

Pg. i - "...port industry ... contributed about \$30 billion to gross national product ...":

This \$30 billion estimate is for the year 1977.

Pg. ii - "GAO believes the shift from a labor-intensive to capital-intensive industry has, in part, diminished the amount of assistance local communities are willing to give because of the substantial reduction in employment opportunities of the port":

This statement, while partially valid, is oversimplified and somewhat misleading. The increased capital intensiveness of development has, indeed, strained traditional assistance from local communities. But competition from other public enterprises (such as, schools, hospitals, water, sewers, etc.) that are more socially visible and the overall inflationary pressures of the past ten years that has fostered a general re-examination of all public expenditures are more significant reasons for the perceived lower local community support for public port financing. The assumed community awareness of the "substantial reduction in employment opportunities at the port" and its subsequent impact on community support for port projects is highly questionable.

Pg. 1 - "...directly or indirectly contributed \$30 billion to the gross national product...":

As per earlier comment, the relevant year for this estimate is 1977.

Pg. 2 - "... new or additional cargoes come about primarily as a result of their promotional efforts." [See GAO note 2, p. 33.]

Frequency and dependability of service, location, overall logistics costs to shippers, shifts in trade patterns, etc., may be as important to the attraction of cargo as are the promotional efforts of a port.

Pg. 3 - "This policy apparently from the Constitution...":
Emanates should be substituted for the word apparently.

Pg. 3 and 4 - "The Federal agencies that affect port operations and development...":
There are approximately 50 Federal agencies that affect port operations and development. The five agencies depicted are perhaps the most significant. This section is probably too general and does not approach the depth required to adequately portray the many and varied Federal activities that affect port development. (For example, coastal zone, economic development, national waterway studies, DOT terminal regulations, user fees, etc.).

Pg. 4 - "Congress has authorized channel and harbor projects...":
What is the time frame for these cost estimates?

Pg. 5 - "During our study we contacted 21 public ports on the four coasts of the United States to obtain an understanding of their problems."
While the 21 selected ports are adequately representative of activities in coastal harbors, no inland waterway ports were contacted. The river ports, while similar in many respects to coastal ports, have different institutional, physical and operating characteristics and problems. For the purposes of this GAO investigation, attention should be paid to inland waterway ports. The Inland Rivers Ports and Terminals, Inc., is the counterpart to the American Association of Port Authorities and represents the specific interests of its 100 member inland river port operators.

Pg. 7 - "The following graph...":
What is the source for this graph?

Pg. 8 - "RELATIONSHIP OF TRANSPORT OPERATING COST TO TANKER SIZE":
What is the source for this table?

Pg. 10 - "The cost of deepening harbors...":
For which year are these cost estimates meant? (Some of these projects have been "requested" for many years and the estimated cost figures must be continually escalated to reflect current prices.) [See GAO note 2, p. 33.]

Pg. 11 - "If the Nation is to realize the benefits available through the use of larger vessels many harbors and channels will have to be deepened or new deep water ports will have to be developed."

The terms "many harbors and channels" is questioned in this statement. For long haul crude oil movement, a few high volume deep water oil terminals (such as LOOP, Inc.) may be developed. With the "loadcenter" concept for large containerhips naturally developing, it may not be financially practical, environmentally acceptable or logistically advisable to deepen many channels as has been traditionally practiced.

Pg. 13 - "The advantages of these concepts ... faster and the cost is the same or less than the all-water route":

This statement is confusing. The loadcenter concept can utilize an

all-water route. This should not be confused with overland service ("mini and micro-bridge") that substitutes rail for water.

Pg. 14 - "The Maritime Administration estimates that collectively these Federal actions...":

The \$42 million per year was for the years 1970-1976 while the \$64 million per year estimate was made in 1977 and covers about a 3 year projected time frame.

Pg. 17 - "...increased costs through meeting Standards of the Occupational Safety and Health Administration...":

While public ports have spent sums for these purposes, private terminal operators have felt the greater impact of these standards.

Pg. 20 - "Traditional methods used are...":

In addition to general obligation and revenue bonds, port industrial revenue bonds are an increasingly important source of capital. Port industrial revenue bonds are bonds issued for port facilities and secured by specific project revenues of an industrial sponsor or an industrial user's corporate guarantee.

Trends in port bonds are as follows: port general obligation bond financing by AAPA members was \$41 million in 1974 and \$31 million in 1978 with a peak of \$116 million in 1976, while port revenue bond financing has increased steadily from \$22.5 million in 1974 to \$402 million in 1978. Port industrial revenue bond financing has grown from \$30 million in 1974 to \$100 million in 1978 for AAPA members.

Pg. 21 - "The loss of the direct labor involved in moving cargo..."

As stated earlier, the connection between the loss of direct labor and less general obligation bond financing is misleading. On the one hand, the employment loss in recent years has been compensated for in many ports by a Guaranteed Annual Income (e.g., Port of New York and New Jersey) that is derived from a tonnage assessment on containerized cargo. While on the other hand, the capital intensiveness of the industry and the general re-examination and pressures on all tax-supported financing have been more primary motivators for increased revenue bond financing.

[See GAO note 2, p. 33.]

Pg. 22 - "OVERSEAS PORTS":

While the comparisons between U.S. and European/Japanese port administrations provide some insights, the comparison is one between essentially unitary states (excepting W. Germany) with the U.S. federal system. A comparison between the United States and the European Economic Community may be more appropriate.

Similarly, a description of the Canadian port system, with its centralized financial assistance and liberal intermodal regulatory activities, would be illustrative for both comparative and competitive impact reasons.

[See GAO note 2, p. 33.]

Pg. 26 - "EDA's assistance programs are small, about \$165 million since 1965..."

Most recent estimates total about \$250 million in EDA public works assistance for port facility development. [See GAO note 2, below.]

Pg. 22 - "Increasing capital requirements will undoubtedly result in some Federal assistance to America's seaports in the future."

From this statement, it would appear the GAO has made its conclusion before addressing its "Alternate Federal Choices".

Pg. 28 - "...Some ports would welcome Federal aid while others would not."

In addition to aid from MarAd and EDA that has been mentioned in the draft, ports have sought and received Federal funds from the following agencies: HUD, Farmers Home Administration, CETA, LEAA, EPA and CZM.

[See GAO note 2, p. below]

Pg. 31 - "Insufficient time has passed since completion of the study to determine whether ports will act favorably on the recommendations."

Since the publication of "Current Trends in Port Pricing" the AAPA has requested MarAd to proceed in the development of a uniform rate-making formula that would result in bringing port prices closer to costs. MarAd will attempt cooperative research in this area. [See GAO note 2, below.]

GAO note:

1. Page references have been changed to correspond to page numbers in the final report.
2. Material contained in the draft report subsequently dropped from the final report because we agree with the agency that the material, while informative, did not materially add to the report.



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C. 20310

JUL 2 1979

Mr. Henry Eschwege
Director
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

This is in reply to your letter to Secretary Alexander regarding your draft report on "Observations on American Seaports--Importance, Developmental Constraints, and Future Implications" (OSD Case #5189) (GAO Code 06549).

The GAO report does give a brief picture of the complexity of issues which are involved in the planning for seaports and the general problems they face. The report reflects on two basic policy issues; the extent to which the Federal government should become involved in economic planning for the private sector and the extent of Federal assistance (subsidy) for construction, operation and maintenance of seaports. We feel more conclusive data are required if the report is to serve as a basis for framing appropriate legislative proposals.

The proud, independent and more or less self-sufficient port industry has, over the last decade, undergone a major transformation. The mechanization of ports in response to the economic need to load and unload large ships, and in particular ships configured for containerized cargo, has brought about the development of several high performance ports (load centers) on each coast. While this has induced strain on seaports which did not develop as rapidly, it has not been necessarily unhealthy for the U.S. economy or the transportation industry. Although the "traditional" economic bases of some ports has been revolutionized by innovative and aggressive port authorities, other ports could remedy their financial decline by considering alternative development schemes. A few are mentioned in the enclosure.

While national defense and security considerations mandate that we have adequate port facilities, the report does not address this capacity. We believe this need should be one of the basic ingredients of decisions involving Federal subsidies. Using past experience as a measure of

Mr. Henry Eschwege

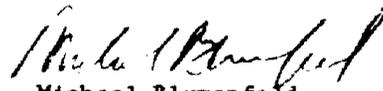
capacity, the allocation of resources from the private sector has been sufficient to serve our defense needs. Specific information on seaport capability for national defense purposes may be obtained from the Military Traffic Management Command and the Joint Staff.

Your report accurately reflects that ports must take many measures to improve and protect the environment. Yet, this has become the normal cost of doing business for any industry. That this justifies Federal aid has not been accepted for other water resources development purposes.

With respect to a national plan for seaports, we would find this reasonable only to the extent that public policy would permit or, for that matter, require interjection of the Federal government. A free enterprise philosophy is bound to have misallocation of resources but, over time, they are leveled by business forces of a relatively free economy. Notwithstanding, any national approach must carefully weigh design life, competition, emerging technologies and other domestic concerns.

We thank you for the opportunity to comment on this draft report. Additional comments and background materials are provided at the enclosures.

Sincerely,



Michael Blumenfeld
Assistant Secretary of the Army
(Civil Works)

- 5 Enclosures
1. Additional DoD Agency comments
 2. Nat'l Waterways Study Maps
 3. Announcement of Public Use Tape
 4. Nat'l Waterways Study Comp. Printout
 5. Domestic & Int'l Transp. of US Foreign Trade - 1976

ADDITIONAL COMMENTS FROM DoD AGENCIESDEPARTMENT OF THE NAVY, Ofc. Asst Secy (MRA&L):

The advent of "mini" and "micro-bridge" operations has been viewed with misgivings by some port authorities. To some extent, this has been offset by "land bridge" service. We see no prospect for the elimination of competition between and among domestic seaports even if it were deemed desirable.

We do not possess the data used in the preparation of the report. We would assume that, beyond the information garnered from port authorities, the Maritime Administration, Department of Commerce, was a primary source. In the past, we have found useful certain reports of the Maritime Transportation Research Board, National Research Council. "Case Studies in Maritime Innovation" and "Public Involvement in Maritime Facility Development" are good examples and might prove valuable in the preparation of the final report.

CORPS OF ENGINEERS

The GAO report is correct in explaining that many ports are finding their old sources of credit dried up. The reason for this can be traced to the low impact port development has, or is thought to have, on the community job market and certainly with intensive capitalization for equipment in many ports, the employment picture, of course, is much reduced. When ports were using large amounts of labor to shift goods from vessel to vessel or vessel to shore, or from one carrier to another type of carrier, their direct impact on the community was obvious. It is not as easy to see the value of the mechanized port to the laboring community; chambers of commerce have become disillusioned.

The smaller ports first need help in understanding their declining importance and what to do about it. First, they can render services to certain trades or groups of trade in contrast to general services. Second, they can try to serve both commercial and recreational needs. Often they have been hesitant to serve a growing recreational need. Third, they can specialize in such things as refrigeration, certain types of handling for dangerous commodities, and other special services. This is a practice common in Europe. Fourth, they can attempt to provide other related services to transportation such as marketing and product promotion. Sometimes this enables a port to develop a new business. Until they find their place, they will be a poor risk for loan agencies and it is questionable if out-right subsidy is the answer.

Before any important improvement in American ports can be made, there should be a careful study of the characteristics of the various port operations across the nation. This is now possible from some data which became available recently relating to the origin and destination of the traffic moving through various U.S. ports. Looking at these data, it is clear that some ports are truly national in character. Others have a fairly broad regional significance, while many more are purely local in

character. Programs for financing, management and for those public improvements such as dredging, channel enlargement, etc., which need to be made, should take into consideration the character of the ports. These data are basic to any understanding of future port problems. Enclosures 2 through 5 are examples of these new data and the Corps is available to discuss this information further with you.

Page 1, para 4 - Federal assistance should be modified to include "improvement" in addition to "maintenance." Navigation aids provided by the U.S. Coast Guard should be noted.

Page 3, para 4 - There are several other Federal agencies that are involved in port activities and operations, e.g., Federal Maritime Commission, Interstate Commerce Commission, Occupational Safety and Health Administration, and others. Although some of these agencies may have low involvement, they have high impact on operations. A simple matrix displaying each agency, type of involvement and magnitude of impact would be helpful.

Page 4, para 1 - A time frame should be given for the harbor and channel cost and appropriation, i.e., \$2 billion and \$900 million.

Page 6, paras 1 and 2 - "Problems" should be redesignated as "impacts."

Page 11, para 1 - This paragraph implies that the Corps dredges to the depths requested by a given port entirely. Although a local interest (port) may have a specific depth in mind in seeking Congressional authorization for improvement, the Corps determines channel dimensions based on existing and future needs of a given port as determined by a combination of economic, engineering, environmental and social factors.

It is indicated that the cost of deepening channels and harbors is "high." A comparison with estimated benefits would put cost in perspective.

Several projects are cited as examples of high cost of dredging and channel improvements. Source of data should be cited. Since the individual projects are associated with different time frames the cost data should be associated with particular calendar years.

Page 12, para 3 - A number of problems are listed as constraints to future harbor improvements. Dislocation or relocation of waterfront areas are not considered a problem of any great significance, although there may be isolated cases. The same is also true for harbor tunnels. Dredge disposal, among those listed, is considered to be the most significant constraint.

Page 14, para 3 - "Dredging costs can be increased by 200 to 1000 percent" appears in need of a reference frame. Source report should be cited. Again, a high cost is implied. For proper perspective, a benefit comparison should be given.

Page 19, para 1 - It is implied that ports need additional capital financing for channel deepening. For clarification, it should be noted that the major channels are a Federal responsibility and that local interests (ports) are only responsible for dredging in berthing areas and some access channels.

Page 22, para 3 - Lightering offshore from larger tankers into smaller tankers and barges is also an alternative which is now practiced at many coastal locations.

GAO note - Page references have been changed to correspond to page numbers in the final report.



OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

ASSISTANT SECRETARY
FOR ADMINISTRATION

JUN 21 1979

Mr. Henry Eschwege
Director
Community and Economic
Development Division
U. S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

This is in response to your letter of May 15, 1979, which transmitted copies of a draft report entitled Observation on American Seaports - Importance, Developmental Constraints, and Future Implications and requested comments from the Department of Transportation.

Our comments to this draft report are enclosed. I trust that these are responsive to your request.

Sincerely,


Edward W. Scott, Jr.

Enclosure



DEPARTMENT OF TRANSPORTATION REPLYTOGAO DRAFT REPORT OF MAY 15, 1979ONOBSERVATIONS ON AMERICAN SEAPORTS -IMPORTANCE, DEVELOPMENTAL CONSTRAINTS, AND FUTURE IMPLICATIONSSUMMARY OF GAO FINDINGS AND RECOMMENDATIONS

This report deals with the importance of ports to the economic well being of the Nation and the increasing difficulty many ports are experiencing in obtaining financial assistance from traditional sources. America's seaports have successfully coped with the dramatic change towards more capital intensive handling of cargo and unitized cargo handling techniques that have occurred in the past 15 years. In doing so, however, they have incurred large long-term debts, and many ports anticipate additional large capital expenditures in the future to accommodate expected trade increases.

In addition, larger ships are expected in future trades which will require deeper shipping channels and harbors, particularly for the importation of petroleum to meet energy requirements.

Environmental requirements placed upon the ports, particularly regarding the disposal of dredge spoil, have resulted in increased costs of operation to these ports. Additional costs have also arisen in connection with compliance with federal regulations concerning employees' safety and health, as well as cargo security.

Ports traditionally have been a local enterprise in the United States; communities have supported these activities because of the economic benefits that ports bring to local interests. GAO believe that the shift from a labor-intensive to a more capital-intensive industry has, in part, diminished the amount of assistance local communities are willing to give to ports because of the substantial reduction of employment activities in the port that arise from this shift. Consequently, ports are experiencing difficulty in obtaining financing from traditional sources of funds, i.e., local or state revenues or tax supported bond issues, and as a result are changing to revenue bonds, which are supported by the income of the port facilities rather than local community taxes. Because of all of

these factors, GAO asserts that the ports have reversed their traditional policy of opposing Federal aid, and are endeavoring to find a way of obtaining Federal financial assistance without Federal control of their industry.

The GAO report also examines approaches to port development in selected foreign countries, as well as the approach to U.S. airport development, as bases for comparison. Unlike the United States most other countries are directly involved in planning and rendering financial assistance for port development. The U.S. government is also directly involved in planning and financing airport development.

Finally, GAO offers some alternatives for Congress to consider when determining what the Federal role in ports ought to be. These include, in addition to the continuing of the status quo the following:

- . A national plan for port development, including Federal underwriting of capital investments and Federal subsidies of operating deficits.
- . A national plan for port development similar to the airport development plan administered by the FAA, including a national user charge to defray part of the cost of port development.
- . Federal underwriting of ports' financial needs.
- . Federal financing of federally mandated costs.

SUMMARY OF DEPARTMENT OF TRANSPORTATION POSITION

The Department of Transportation agrees that ports represent an important asset in the handling of our nation's international trade as well as domestic movements of vital cargoes. Accordingly, this Department shares the concern that GAO has expressed as to the viability and future financial health of our nation's ports. However, there is considerable doubt as to whether federal assistance is either desirable or necessary. We believe that the need for such assistance has not been demonstrated either in this report or in other works on the same subject.

The U.S. port industry has not indicated a strong need for such assistance at the present time, except to seek funds that would reimburse them for so-called "mandated costs" (i.e., those extra

costs imposed as a result of Federal statute or regulation). While these mandated costs may represent an increased cost burden to the port industry, it is our opinion that they fall equally on all ports as well as on all other segments of the transportation sector and of this country. We would note, also, that the competitive port system within which most of this nation's ports operate puts pressure on all to control their costs. Thus, the difficulties that are described in the GAO report are a natural consequence of the competitive system under which these ports operate. This Department would be reluctant to disturb this heretofore successful and competitive market environment.

A user charge study in relation to federal waterways is now being initiated by this Department. This study should provide much needed information, bearing on the Federal contribution towards waterways, that represent such a vital part of port operations. However, DOT also recommends that a complete assessment of national port capacity and the need for a Federal role should be a precedent to any legislative activity in so far as Federal financial assistance to the port industry is concerned.

POSITION STATEMENT

The GAO report, in its main body, is organized into five chapters which include an introduction, a discussion of technological and regulatory problems affecting port operation and development, problems involving public port financing, a description of other approaches to the financial problem, and finally a description of alternative Federal choices. Much of the material is noncontroversial and appears factually correct. It is very similar to a MarAd study on public port financing which was completed in 1974.

While we in general have no major disagreements with the material presented, we do not believe that the evidence in the report supports the conclusion that some kind of Federal financial assistance is required. (See GAO note)

The following specific comments on the draft report are organized by chapter.

GAO note:

The material in this report is not intended to justify Federal financial assistance to seaports. Rather, it is intended to summarize financial problems facing a vital link in the Nation's transportation network and options that are available for congressional consideration.

CHAPTER 1: INTRODUCTION

Measurement of export/import activity by tonnage alone inevitably biases the data towards bulk movements. It is perhaps preferable to display cargo value as well: it is more readily related to total macroeconomic activity and represents a useful proxy for freight revenue as well.

The economic activities that are related to port operations are considerable and evident, but should not be made too much of; the same argument can be applied to other transportation activities, as well as to almost all economic activities in other sectors of the economy.

While the port industry is highly competitive as regards competition for cargoes it is also necessary to point out that considerable federal support already exists with respect to waterway development and navigational aids. In this respect, it might be appropriate if the report listed the contributions of the Federal sectors including the U.S. Army Corps of Engineers, U.S. Department of Transportation Coast Guard, and U.S. Department of Commerce's Maritime Administration in relation to the investment of state and local governments insofar as shoreside facilities are concerned. The numbers, in our opinion, would not be insignificant insofar as the Federal contribution is concerned.

CHAPTER 2: TECHNOLOGICAL AND REGULATORY PROBLEMS

While the impact of technology and regulatory change is admittedly significant, the discussion of the bulk cargo impact in the early part of this chapter is perhaps not entirely relevant to the subject of public port financing. By comparison, the discussion of general cargo movements and vessel types is quite relevant.

In this regard, the report's consideration of channel deepening as a means of achieving economies of scale does not fully address the impact of larger ships on land-based facilities, particularly those for several cargo service. Most of the incentives for greater channel drafts generally arise from the desire to handle the larger tanker and bulk carrier vessel sizes, rather than those general cargo vessels with which public ports are generally involved.

We would also point out that a dredging request to the Corps of Engineers has been equivalent to a request for Federal support of that particular port. The allocation of the Corps of Engineer's

dredging resources requires that judgments be made as between one port and another; the demands are such that we cannot give everybody what they need. Thus, the lack of a national port development plan makes the allocation of this Federal assistance by the Corps of Engineers quite difficult, and subject to attack.

While we agree that the impact of containerization has put increasing demands on the ports' shore facilities and the resultant need for capital investment we would argue that the competitive system under which the ports now operate will result in some ports solving this problem more successfully than their competitors. Further, we would argue that the impact of containerization as it affects the intermodal system of transportation continues to be a very dynamic phenomenon; the changing sources and destination of international trade flows, and the pricing and regulation of both domestic and international transportation, suggest that a system of U.S. ports, operating in a competitive environment, is the most flexible and efficient means of responding to these changing national needs. What has not been demonstrated, insofar as we are aware, is any shortfall or deficiency in port capacity that is inhibiting the flow of commerce on a national scale. On the contrary, it would appear that the competitive market for ports, coupled with relative ease of financing, has led to an oversupply of port facilities nationwide. This assessment of port capacity, upon which any Federal program for port financial assistance must depend, remains to be done.

As noted earlier, environmental constraints and other concerns for public safety and security have led to increased costs for all ports in recent years. Pending a better method of satisfying the public concerns in this regard, we would argue that this burden, while perhaps onerous, falls approximately equally upon all ports, just as it bears upon both Ford and General Motors, IBM and Honeywell, Dow and Union Carbide - in fact, all competitors to some degree in every sector of the American economy. One possible exception to this question of mandated costs lies in the area of dredge spoil disposal, where the port may in fact be penalized for the prior polluting activities of other industries on the same waterway. This possibility needs to be developed further.

CHAPTER 3: PUBLIC PORT FINANCIAL PROBLEMS

The shift towards increased revenue bond financing which ports have been experiencing, appears to be a natural consequence of the trend towards more capital-intensive cargo facilities, as described in the GAO report. However, as revenue bonds generally involve user commitments, there would appear to be no significantly greater risk to ports associated with the use of this type of financial instrument.

The more serious problem would appear to be the declining use of public port facilities financed through general obligation bonds, due again to the shift to more modern and efficient facilities. A port, which in the past had financed a general cargo terminal by use of general obligation bonds, may find that newer, more competitive facilities have led to declining use of such a facility, with consequent debt service difficulties. We would observe that this is not so much a result of the type of financing as a characteristic of the dynamic and competitive market in which the ports operate. A shift to revenue bond financing, in this context, is but a natural means of protecting a port's financial position in this type of environment.

In this regard, it would be helpful if the report were able to categorize the income and expense information insofar as port financial data are concerned. Specifically, we would like to see the breakdown between lease income and operating income i.e., between those facilities that the port leases to others, and those which the port operates itself.

CHAPTER 4: OTHER APPROACHES

The discussion of port development approaches in other countries highlights the existence in many of these countries of a national plan, which identifies national requirements and goals insofar as port capacity is concerned. Such a plan would appear to be an essential prerequisite to any Federal investment in port facilities. As noted earlier, the U.S. Federal investment in ports, by way of the Corps of Engineers and Coast Guard activities, is already considerable; yet there is there is no national plan in this country.

As the report points out, the U.S. government has historically played a stronger role in the development of air transportation, including airport development. As this Federal assistance is financed by what amounts to user charges, however, it is not at all certain that the port industry would find a Federal program, modelled after the FAA approach, acceptable.

Finally, it should be noted that three major Federal departments (i.e., Commerce, Transportation and Army) currently have major roles insofar as port development in the U.S. is concerned. Implicit in the idea that the Federal government should increase its port development activities is the organizational question of how these roles should be adjusted. The GAO might wish to address this issue in developing its recommendations to the Congress.

CHAPTER 5: ALTERNATIVE FEDERAL CHOICES

This chapter presumes the need for Federal assistance. As noted, we do not feel that the case has been made; the presumption is a risky one.

Each of the alternative choices presented in the report would benefit from the inclusion of an estimated cost to the Federal government, and how this cost would be financed.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 27 1979

Mr. Henry Eschwege
Director, United States
General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

We have reviewed the draft of your proposed report entitled Observations on American Seaports - Importance, Developmental Constraints, and Future Implications.

In our view this report overemphasizes the role of Federal environmental agencies, particularly the Fish and Wildlife Service (FWS), in increasing the costs of port development and causing time delays in port construction. It should be noted that the actions of Federal environmental agencies are not taken arbitrarily but are based on established instruments of Federal policy, such as Federal laws, Executive Orders on wetlands and floodplains, and court decisions. For example, FWS is mandated under the Fish and Wildlife Coordination Act (FWCA) to provide reports and recommendations to Federal agencies proposing to construct or permit port development projects for the purpose of protecting and conserving the Nation's fish and wildlife resources and the public's use and enjoyment of these resources.

Specific Comments

Page 3 and 4 - The National Marine Fisheries Service (NMFS) should be included in this discussion. NMFS has responsibilities under the FWCA for the review of proposed port development projects similar to those of FWS.

Page 4, last paragraph - The impacts of disposal of dredged spoils involve much more than fish spawning areas, such as fish nursery areas, shellfish beds, fish harvesting areas, wetlands, and waterfowl nesting, resting, and feeding areas. In addition, the reference to Fish and Wildlife regulations is incorrect. The Fish and Wildlife Service does not have authority to impose restrictions on the disposal of dredged spoil or any other features of port development. Under the FWCA, FWS can only provide recommendations to the Federal construction or permitting agency. The responsible agency is required by the FWCA to

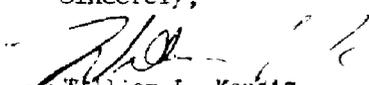


consider the Service's recommendations on fish and wildlife matters equally with other project aspects in making its decisions on project construction and permit conditions.

Page 18, first paragraph - The first sentence of this paragraph states that only a relatively few states have approved coastal management plans. Actually, thirteen of the thirty-five eligible states have approved coastal zone management programs at present. We expect that by the fall of 1979 more than half of the eligible states will have Federally approved programs.

Thank you for the opportunity to review this draft report and to provide our views to you.

Sincerely,


Acting Deputy Assistant Secretary
Policy, Budget, and Administration

GAO note :

Page references have been changed to correspond to page numbers in the final report.

(065490)



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